

Table 3-7e
Development of Risk-Based Concentrations for Upland Soil
Northern Harrier
Investigation Area H1 Feasibility Study
Mare Island, Vallejo, California

$$RBC_{soil} = BW \times TRV \times HQ / [(IR_{prey} \times BAF) + IR_{soil}] \times SUF]$$

COEC ^a	Rodent Tissue BAF ^b	TRV (mg/kg BW-day)		RBC-Soil (mg/kg)	
		Low	High	TRV-Low	TRV-High
Inorganics					
Antimony	1.22E+00	NTV	NTV	--	--
Arsenic	--	5.5	22	28875	115500
Cadmium	--	0.08	10.4	420	54600
Chromium	2.60E-02	2.66	2.78	2959	3092
Cobalt	--	7.61	17	39953	89250
Copper	3.45E-01	2.30	52.3	240	5454
Lead	6.10E-01	0.014	8.75	0.83	521
Manganese	--	77.6	776	407400	4074000
Mercury	--	0.039	0.18	205	945
Molybdenum	--	3.5	35.3	18375	185325
Nickel	--	1.38	56.3	7245	295575
Selenium	6.12E+00	0.23	0.93	1.4	5.6
Silver	--	178	NTV	934500	--
Thallium	1.01E+00	0.35	NTV	12.7	--
Vanadium	--	11.4	114	59850	598500
Zinc	1.11E+00	17.2	172	567	5670
Organics					
PCBs	1.81E+01	0.09	1.27	0.18	2.6
Total DDTs	1.04E+00	0.009	1.5	0.31	52.5
Benzo(a)anthracene	--	NTV	NTV	--	--
Benzo(a)pyrene	--	0.001	0.01	5.3	52.5
Benzo(b)fluoranthene	--	NTV	NTV	--	--
Benzo(k)fluoranthene	--	NTV	NTV	--	--

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Exposure Assumptions and Equation:^c

	Value	Units	
IRprey(dry wt.) =	0.048	kg/day (dry weight)	-- = Not available
IRrodent (dry wt.) ^d =	0.048	kg/day (dry weight)	NTV = No toxicity value
IRsoil (dry wt.) ^e =	0.000336	kg-day (dry weight)	
Tissue Moisture (mouse) ^d =	68%	percent	
Site Use Factor ^f =	25%	percent	
Body Weight =	0.441	kg	
Hazard Quotient (HQ) =	1	unitless	

Notes:

- a - Constituent of ecological concern.
- b - Dry-weight basis mouse BAFs presented in Table 3-6a.
- c - Exposure parameters used to calculate risk are discussed in detail in the ERA.
- d - The wet weight tissue concentrations are converted to dry weight by dividing by 1 - tissue moisture.
- e - Ingestion rate of sediment based on 0.7 percent of the prey ingestion rate (dry weight); based on a bald eagle (Pascoe et al., 1996)
- f - Site use factor was based on a 25% use of the site for the harrier's foraging range.